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SPECIFICATION NUMBER 15

MINOX COPY KIT

COPY NO. *25*

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SECTION I

OPERATIONS

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OPERATIONS

SECTION I

1. GENERAL

The Minox Copy Kit consists of a complete set of equipment for the photographic copying of documents and similar material. The components are packaged in a small, light weight carrying case which resembles in external appearance a case of drafting instruments. The case contains all of the components needed to assemble a Minox Copy stand and the equipment required for the photo copying of 5-3/4" X 7-1/2" and 3-3/4" X 5+1/2" documents. Continuous copies of larger documents such as may be mounted on desks, walls or similar surfaces may be easily obtained with the copy stand.

2. DESCRIPTION OF EQUIPMENT

The entire equipment is shown in Figure 1 and consists of the following items as indicated:

- (A) Leatherette Kit Case.
- (B) A Minox camera in its leather case with measuring chain.
- (C) A Minox light meter in its leather case with measuring chain.

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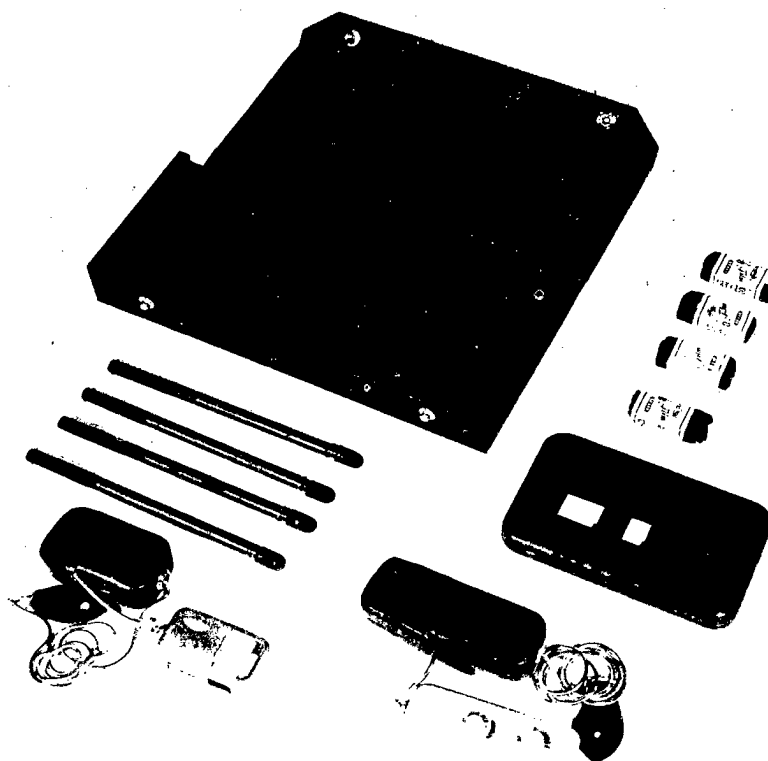


FIGURE I

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- (D) The camera stand base.
- (E) The four camera stand telescoping legs.
- (F) Four 50 exposure cartridges of Minox film.

The Minox Copy Stand consists of the base and four telescoping legs. The legs are assembled to the base by insertion into quick connect sockets located in the four corners of the base. After the legs are attached to the base, the Minox camera is snapped into position on the base and the unit is ready for operation.

3. OPERATING INSTRUCTIONS

3.1 Camera Stand Assembly

Remove the stand base and the four legs from the carrying case. Insert the four legs into the quick connect sockets in the stand base. These sockets are similar in operation to a spring collet; that is, once the leg is inserted into the socket a small rotation tightens the socket and firmly grips the leg. Each leg has a small cross pin located at the end which serves as a guide

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for insertion into the collet. The collet has two cross slots to receive this leg pin. The assembly consists of aligning the leg pin with the collet slots, pressing the leg firmly into the collet and rotating the leg one quarter to three quarters of a turn clockwise until the leg is securely gripped. The four legs are thus assembled to the base.

The Minox camera is then removed from the carrying case, taken out of its sheath and the measuring chain is removed leaving the camera free. The camera is set into the track on the top of the stand base and slid into position against a retaining spring on the base in such a manner that the spring is nearest the camera range adjustment dial.

3.2 Camera Stand Adjustment

The telescoping legs of the stand are now pulled out and locked to give the stand height required for the document size it is desired to copy. For the 3-3/4" X 5-1/2"

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document size the height is obtained by pulling out the rubber tipped section of each leg to the first stop and rotating this section $1/4$ to $1/2$ turn to lock leg in position. The height of the stand for this leg position is 8 inches above the document. To copy a $5-3/4$ " X $7-1/2$ " size document merely requires further extending each of the legs by drawing out the center telescoping section and rotating it $1/4$ to $1/2$ turn to lock this extension in place. The stand height will now be approximately 12 inches above the copy. With the telescoping legs properly locked in either of the extended positions it is impossible to accidentally collapse them. If it is desired to copy larger documents than $5-3/4$ " X $7-1/2$ " it is only necessary to make a series of exposures by "stepping" the stand from one copy section to another.

3.3 Photographic Copying Operation

Once the stand is assembled and the legs are extended to the required height, and the Minox camera is snapped into position, the operation of the camera is identical to that for

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ordinary hand held operation. The camera can be re-cocked without removal from its position on the stand. It is merely necessary to draw out the cocking end of the camera to its extreme position while leaving the camera retained in its track on the stand. It is recommended that the end of the camera which is retained by the spring clip be gripped in one hand while cocking the unit, to avoid movement of the stand with respect to the copy.

With the camera in cocked position and the range dial set, sighting through the view finder will enable the operator to determine what portion of the copy will be obtained on the final photograph. It is also possible to determine the boundaries of the copy which will be obtained, without using the range dial and view finder, by observing the position of the rubber tipped legs of the stand. The portion of the copy falling inside the rectangle formed by the four legs will be included in the

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photograph made. The four film cartridges provide a total of 200 exposures.

Figure 2 shows the stand assembled and ready for operation.

The Minox light meter is included in the kit to enable determination of correct camera shutter settings. The meter should be pointed to the center of the copy when taking a reading. It should be borne in mind that since the Minox camera has a lens aperture permanently set at f/35 only the camera shutter speed can be adjusted in accordance with the film ASA rating as shown on the light meter to obtain best results.

3.4 Camera Stand Disassembly

The Minox camera is removed from the stand base by sliding it out of engagement with the retaining spring and lifting it from the track.

The telescoping legs are collapsed to closed position by rotating each extended section 1/4 to 1/2 turn and at the same time exerting a slight pressure toward closing the leg.

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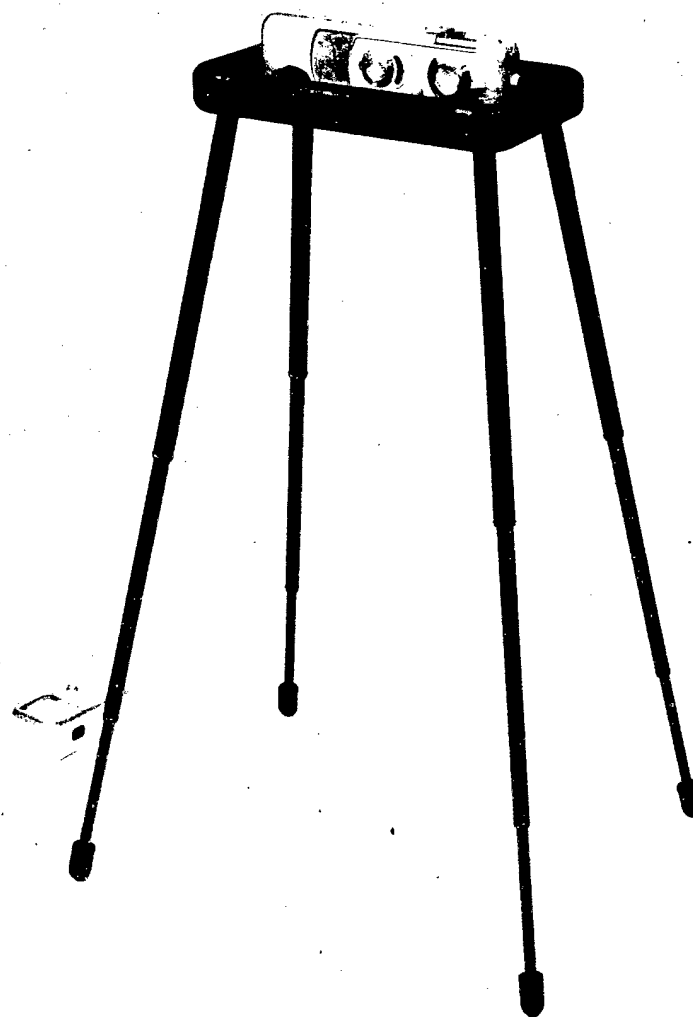


FIGURE 2

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Removal of each of the four legs from their collets is accomplished by rotating the leg counter-clockwise a small amount and at the same time pulling lightly to disengage the leg from the collet. A knurl is provided at the cross pin end of each leg to facilitate disengaging the leg from the collet. Construction of the collet is designed to prevent its being completely unscrewed from the base during normal operation. Any attempt to turn it considerably more than the amount needed to allow easy removal of the leg may result in damage to the assembly.

Removal of the four legs from the base completes the disassembly of the stand. After insertion of the light meter and Minox camera in their leather cases all components may be placed in their respective compartments in the leatherette kit case. Upon replacement of the film used during operation the Minox Copy Kit is complete and ready for use as previously described.

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SECTION II

MAINTENANCE AND REPAIR

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MAINTENANCE AND REPAIR

SECTION II

A. SCOPE

This specification will cover maintenance and repair instructions for the Minox Copy Kit. If the equipment is operated in accordance with Section I of Specification No. 15 entitled "Operations", the following maintenance will keep the equipment in good operating condition throughout its service life.

2. OPERATING MAINTENANCE

The following procedures are to be performed at the intervals stated.

2.1 Camera Stand Base

2.1.1 Spring Collets

The application of two drops of light machine oil to each of

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the four spring collets once a year will keep them operating smoothly. This should be applied at the cross slots of the collet so that it will flow down into the collet assembly.

2.1.2 Protective Tape

If the equipment is frequently used an examination should be made every 3 months to determine the condition of the black tape which has been applied to the base to prevent scratching the camera case. If the tape has pulled loose it should be cemented back in place with "Pliobond" or an equivalent cement. If complete replacement of the tape is required a set of tapes should be cut to the proper shape and installed. Such tapes may be obtained from the manufacturer.

2.2 Telescoping Legs**2.2.1 Wire Clips**

Every three months the telescoping leg assemblies should be checked for satisfactory operation. Any of the locking wire

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clips that do not work properly should be replaced at this time.

To insure completely reliable operation of the Copy Stand the wire clips on the telescoping legs should be replaced after every one thousand operational uses. Replacement clips may be fabricated from drawings 15-406 and 15-407 or obtained from the manufacturer. In installing the wire clip care must be taken to avoid permanent distortion. Proper installation is accomplished by inserting the flat section of the clip in the slot of the tubular leg and then sliding the curved ends of the wire clip over the end of the tube and into position in the retaining groove.

3. **REPAIRS**

Replacement and repair of all components and assemblies shall be carried out in accordance with drawing set number 15 and its associated parts list. Dimensional tolerances, materials and processes shall be those indicated on the

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applicable drawing.

Replacement parts for commercial items may be obtained from the sources indicated on the parts list. Replacement parts for the fabricated items covered by drawing set number 15 may be obtained from the manufacturer if desired.

4. Kit Case

The Kit Case requires no maintenance or repair over the service life of the equipment.

5. Camera and Light Meter

Maintenance and repair of the camera and light meter shall be carried out in accordance with the manufacture's instructions.

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SECTION III

MATERIALS AND TEST SPECIFICATIONS

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MATERIALS AND TEST SPECIFICATIONS

SECTION III

1. SCOPE

This specification will cover the general requirements for materials, parts and processes used in the fabrication, and assembly of the Minox Copy Kit. It will also define the methods to be used in the inspection and testing of the equipment. Drawing set number 15 shall be considered to be part of this specification.

2. CHOICE OF MATERIALS, PARTS AND PROCESSES

The materials used in all components of the Minox Copy Kit shall conform specifically to those called out in the governing drawings which are part of the specification. Tolerances of parts or assemblies called out in these drawings shall be met in the fabrication and assembly of all units. The camera stand base shall be made of Alcoa

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Aluminum Alloy No. 356 as cast, or equivalent, in accordance with drawing 15-411. The casting shall be reasonably free of flaws and porosity. The wire clips used to lock the telescoping legs in position shall be of cast steel music wire formed in accordance with drawings 15-406 and 15-407.

2.1 PLATING AND PAINTING

Plating or painting shall be used on all components to retard atmospheric corrosion and to provide matte black surfaces which will minimize undesirable reflections of light when using the Copy Stand.

Brass components shall be finished in matte black by the application of a .0002" thick flash copper plate which is then oxidized black. The camera stand base casting shall be medium sandblasted with a 40 mesh washed silicon sand and finished with matte black lacquer (DuPont #233-2184 or equivalent) in accordance with the specifications of drawing number 15-411.

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2.2 LEATHERETTE KIT CASE

The Kit Case frame shall be constructed of kiln dried 3/16 " thick hard wood, lined with velvet and covered with a heavy duty, medium pebbled, black vinyl leatherette. Dimensions shall be in accordance with drawing number 15-412. The cover shall be provided with two United Car "Dot" snap fasteners, or equivalent. Great care shall be exercised in the cementing of the lining and the outer cover and the entire fabrication of the case shall be in accordance with best commercial processes.

3. INSPECTION AND TESTING

All components shall be inspected in accordance with the tolerances and specifications of drawing set number 15 prior to assembly. Each complete Minox Copy Kit shall be visually inspected for overall appearance and to insure satisfactory assembly, surface finish, plating, and painting. In addition, each Copy Stand shall be tested for the following characteristics:

3.1 COLLET OPERATION

Each spring collet in the stand base shall be tested for locking

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and unlocking action with the telescoping legs in accordance with the operating procedures of paragraphs 3.1 and 3.4 of Section I, Specification No. 15 entitled "Operations".

3.2 TELESCOPING LEG OPERATION

The sliding action of each leg in opening and closing, and the locking and unlocking action of the wire clips shall be tested in accordance with the operating procedures of paragraphs 3.2 and 3.4 of Section I, Specification No. 15.

3.3 LEVEL AND STABILITY

The Copy Stand shall be tested on a flat surface for level and steady positioning at both copy heights.

The above inspection and testing shall be performed on all Minox Copy Kits.

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